

Washing column

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The invention relates to an installation for separating and purifying solids from a suspension and/or for leaching out solid particles, having a cylinder (22) having a piston (23) movable therein. A sealing part (24) of the piston is in contact with the interior wall of the cylinder. A filter (27) is positioned some distance away from the sealing part of the piston. A discharge chamber (29) is located between the filter and the sealing part of the piston. A pump chamber (30) is formed below the sealing part of the piston and a washing column (28) chamber containing a packed bed of solid particles is formed above the filter. During a downward pump stroke of the piston, suspension is forced, via at least one connecting channel (26) between the pump chamber and the washing column chamber, to the washing column chamber. During a compression stroke, liquid is brought via the filter to the discharge chamber and discharged via a discharge line (35). Solid particles, such as crystals, remain behind on the filter and are compressed against the packed bed. The connecting channel can be located inside the cylinder. In that case the piston has a conical jacket with a streamlined non-return valve (40, Figs. 2, 3). The connecting channel between pump chamber and washing column chamber can also be located outside the cylinder (51, Fig. 5A). The installation according to the invention has relatively simple seals and feed and discharge lines fixed to the cylinder in a stationary position. The installation can also be scaled up easily.

fig - 2

